

Andy Tillman Interviews
Expert Bolivian Wool Sorter Miguel Azucena

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Andy Tillman, on his visit in 1993 to Bonanza R.R.I., posed these questions to Miguel Azucena

Q: How do you grade the wool? How many classifications are there?

A: We grade the giver into three different types: 1) alpaca fiber; 2) *huarizo* fiber; and 3) llama fiber.

The alpaca fiber is sorted by hand into three categories, depending on the fineness, and into 17 natural colors (no blends).

Both *huarizo* fiber (the cross between a llama and an alpaca) and llama fiber are sorted into two categories on the basis of fineness and 12 different natural colors (no blends).

Q: Can you tell the difference between leg, neck, stomach, and primary fleece?

A: It is possible to tell the difference between leg, neck, stomach, and primary fleece by looking at the length and fineness of the fiber. Fibers from neck or leg may be classified with the primary fleece if the fineness is similar.

The main difference between Peruvian and Bolivian buying processes is that Peruvians buy all fiber at one price without pre sorting. On the other hand, Bolivians pre-sort the fiber into categories, and we pay different prices according to its fineness.

Q: How can you tell the difference?

A: By feeling the fineness, looking at the length of the fiber, and looking at the shape of the fleece.

Q: What do you call your various categories of fiber?

A: For alpaca fiber, either *huacaya* or *suri*, we have four categories: Baby (BL) 21-22 microns; Fine (FS), 25-26 microns adult; Coarse (AG) 31-33 microns; and GARRA used only for blending, but not to produce tops.

For llama and *huarizo* fiber the categories are" Fine (FS-LL) about 27-28 microns; Coarse (AG-LL) about 32 microns. For *huarizo* (FS-H) about 26-27 microns; Coarse (AG-H) about 31 microns.

Q: What is the minimum and maximum desired fleece lengths.

A: The optimum length for commercial use depends on the type of machinery, but based on our experience we want a minimum of 2.2 inches and a maximum of 10 inches.

Q: What are the differences, if any, between Bolivian and Peruvian alpacas?

A: Bolivian alpacas have more variety of natural colors and some differences exist in the fiber's grease content depending on the region where the alpacas live and food they eat.

Q: What does alpaca sell for in the grease (raw fiber) and for top (processed)?

A: The prices for greasy alpaca and alpaca tops depend on the quality (micron) of the fiber. However, three standard qualities are recognized in the international market. Small price differences may be received for preferred colors, at this time black commands higher prices. Relative prices (\$/kg) per quality are:

BL Quality, 21-22 microns: (usually known as baby fiber)	In Grease	Top
white/off white	14.50	22/20
colors	13.20	20.00
FS Quality, 25-26 microns:		
white/off white	11.50	19.00
colors	10.50	18.00
AG Quality, 31-32 microns:		
white/off white	5.30	9.60
colors	5.00	9.10

Micron=1/1000 of a millimeter (0.03937 inches).

Q: Explain the difference between top and roving.

A: A Fiber becomes a rove when it passes through the card. The fiber comes out of the card as a rove. Roving is defined as a state of the fiber, the fibers being approximately uniform in a cross-sectional area.

Q: Do you have to de-hair alpaca wool? Do you pay a premium for alpaca wool without hair?

A: An alpaca produces a hair or a fiber that is not properly called wool. Wool is understood to be the product of sheep.

The de-hairing process is used only when there are coarse hairs within the fine hairs. The alpaca fiber is very homogeneous and uniform; therefore, there is no need to de-hair alpaca. Alpaca fiber is sorted in three different qualities, as specified above, to produce the different quality of tops. However, within each of these qualities, the fiber is still homogeneous and uniform.

Llama fiber and *huarizo* fiber usually have a mixture of coarse and fine hairs; therefore, these fibers must be de-haired to obtain a homogeneous and uniform top.

Q: Do you pay a premium for the best quality fiber?

A: In our buying process, we pre-sort the fiber into four qualities: Baby (BL), Fine (FS), Coarse (AG), and GARRA. GARRA, the coarser and shorter fiber, is used for blending with other coarse fibers.

We pay more for baby alpaca, the first shear of an alpaca that is not more than one and a half years old. This fiber is usually 21-22 microns and commands a higher price in the international market.

suri fleece brings about 15% more than *huacaya* fleece in the international market.

Q: What is an average fleece weight?

A: About eight pounds per animal if sheared every two years. Most colored fleeces weigh a little more than white.

Q: How much fleece would you typically buy from a campesino?

A: There is no average weight; a campesino may bring quantities that vary, from 50Kg to 2000Kg. We buy from the intermediary and the producer. A producer of small quantities prefers to sell to an intermediary because transportation costs for small lots become a great part of the costs. We buy on average about 30 tons a month.

Q: How important is crimp in your grading of the fleece?

A: We pay little attention to crinkle or crimp. We have found *huacaya* fiber with crimp is usually finer than *huacaya* fiber with little crimp, but all *huacaya* fiber has crimp to some degree. *suri* fiber has no crimp and is better and more expensive.

Q: Do you pay a premium or do any grading on the basis of crimp?

A: Neither Bonanza nor our clients nor the market cares about crimp or crinkle. The key consideration is the micron, taking into account that *suri* fleece will be finer even though it could have higher micronage. The other advantage of *suri* alpacas is that they may be sheared very year while *huacayas* usually are sheared only every second year because of fiber length requirements.

Q: When an expert sorter feels a fleece sample, what is he attempting to detect? Does he feel the microscopic "scale" of the fiber?

A: They feel fineness and have an expert's idea of the micron of the fiber.

Q: What colors are popular in Bolivia, Peru, and Europe?

A: Bolivia has a good range - 65% colors and 35% white. Peru produces about 90% white and 10% colors. In Europe the demand is for black, dark colors and for white, because it is easy to dye.

Q: How does the grading of *suri* fiber differ from *huacaya* fiber?

A: The grading of *suri* is the same as the *huacaya* taking into account that *suri* fleece has a different conformation so the "hand" or feeling is different on the *huacaya* fiber.

Q: Is *suri* finer than *huacaya* or about the same?

A: *suri* is about the same as *huacaya* fleece in terms of micronage; however, *suri* fiber has less medulla than *huacaya*, is more lustrous, and has a better "hand".

Q: How is *suri* fiber used in the international textile industry?

A: *suri* fiber is used to make fabrics rather than yarn for clothing. It is blended with wool.

Q: How can you tell when it is still a baby whether it will produce a good *suri* fleece?

A: We look at the animal's conformation and at its fiber. The baby should have locks starting close to the skin that fall straight and close to the body giving the impression of heaviness. The animal should look like a skinny animal. Whenever the wind blows the fiber of the baby, the lock should lift and go down to its original position; it does not get disordered.

Q: Do you see how close to the skin the lock is?

A: Bolivian breeders believe the difference between a *huacaya* and a *suri* type is 99% related to fiber conformation by locks. We can determine mathematically the number of locks on a 10 cm squared patch and also how close the locks are to the skin. Usually a good *suri* alpaca will have about 180 to 200 locks in a 10 cm squared area so we care about the density of locks on the animal and also the length of the fiber.

Q: Does it matter whether the lock is straight or coiled?

A: Usually a coiled lock is better and is found on better alpacas. The better alpaca is the one that has more locks (per 10 cm squared) with the locks closer to the skin. A coiled conformation seems to be necessary to conform the locks.

Q: How would you use *huacaya* fiber (or fine wooled llama) that lacked crimp?

A: As I said before, we do not care very much about crimp on *huacaya* or llama fiber. Most important is the micronage.

Q: For what is the leg, neck, head, and stomach fiber used? Is it blended with finer fibers?

A: It is used in producing tops for yarn in carpets, heavy clothes and also blending with different fibers.

Q: How important is uniformity of the fiber?

A: Very important. Llamas usually have hair among the fine fleece, so the fiber must be de-haired. At this time we are working with our partner in England on a machine that could be used as an alternative to the de-hairing machine which is expensive. Presently we do the de-hairing at our plant by hand.

Q: Is there a relationship between fineness and color? Are there colors which are routinely finer than others? Is there a relationship between crimp or crinkle and color?

A: We have found fineness depends on the animal's quality, the region where it lives, its nutrition, and its age. We see no relationship between fineness and color, but usually finer *huacaya* fibers have crimp.

About Miguel Azucena

Miguel works for Bonanza R.R.I., the largest buyer of alpaca wool in Bolivia. Miguel Azucena supervises a staff of approximately 45 sorters and instructs approximately 1,000 hand spinners. He began his career with the Bolivian government's Bolivian Committee of Wool and Fiber Foment (COMBOFLA) receiving training from Bolivian, European, and Peruvian experts. Miguel also worked at the government's alpaca research farm. IN 1979 the Bolivian government created the National Institution of Wool and Fiber Foment (INFOL) to succeed COMBOFLA. Miguel worked with INFOL from 1979 until 1988, when he joined Bonanza S.R.I.